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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,502	04/22/2004	Takateru Imai	82644	6966

22242 7590 08/25/2006

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EXAMINER	
KORNAKOV, MICHAIL	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/829,502	IMAI ET AL.	
	Examiner	Art Unit	
	Mikhail Kornakov	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12 and 14-17* is/are pending in the application.

4a) Of the above claim(s) *16 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *12, 14-17* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 12, 14 and 15 in the reply filed on 06/07/2006 is acknowledged. Claims 16 and 17 are withdrawn from consideration as being directedrawn to non-elected inventions. Claims 12,14,15 are examined on the merits.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scarola et al (U.S. 5,443,652).

Scarola discloses a method for cleaning the plastic flakes to be recycled. Before the cleaning is performed the plastic material is typically shredded to form pieces (col. 3, lines 35-46). This reads on the first step of crushing of the instant claim 12. Water is added to plastic flakes and high shear agitator is provided, so that the contamination is removed from the surface of the plastic flakes. The contaminant containing water is then separated from the cleaned plastic flakes.

The shaft is mounted in the washing container of Scarola, the shaft has one or more agitators mounted around the shaft, these parts are inherently "roughened" taking the "roughening" with its common meaning. Means for rotating the shaft provide the rotation of the cleaning vessel, while the flakes are cleaned by water (col.2, lines 15-20, Fig. 1, 3; col. 4, lines 37-61). This reads on the steps of cleaning and rotating of the instant claim 12. The plates and walls of container are preferably made of stainless

steel, which means that the surface of the plates and container walls is roughened to certain level. With specific regard to claim 14, the process of Scarola is a continuous process, wherein the water is constantly supplied and drained, thus inherently maintaining the water level sufficient to maintain a ratio of crushed pieces and water (see Fig 3, 4, col.8, lines 46-50, Examples 1, 2).

Scarola does not teach the specific roughness value of the surface of the container or the surface of rotary body. It is first noted that such characteristic does not provide any further limitation to the method claim, as being a feature of a machine for performing otherwise known process. Scarola, however motivates those skilled in the art to increase abrasiveness of the surface by teaching that smaller distances between the wall and the tip of the agitator blade increases the level of shear created by the blade and also increases the level of abràsion created when the plastic flakes strike the wall. The closer the tip of the agitator blades are to the wall of the vessel, the more efficient the abrasion, thus making the walls of the vessel abrasive or roughened. Therefore it would have been obvious to those skilled in the art to adjust the roughness of the surface via routine experimentation to achieve the optimum abrasiveness and thus to enhance the effectiveness of cleaning in Scarola's otherwise substantially identical process.

With regard to claim 15 Scarola discloses the methods steps as discussed in the previous paragraph, and anticipates the ***method*** steps. He also discloses the linear speed of the rotary body as instantly claimed (col.5, lines 19-24). Scarola further discloses the ratio between the weight of the crushed flakes and water in Example 6

that is close to 1:2 (200 lb water and 80 lb of PET chips). Scarola is silent about the temperature of the interior of the cleaning device. However, differences in temperature will not support the patentability of a subject matter encompassed by the prior art unless there is evidence indicating such temperature is critical. Since the general conditions of a claim are disclosed in the prior art, to discover the optimum or workable ranges by routine optimization is within the skills of ordinary skilled in the art.

Response to Arguments

3. Applicant's arguments with respect to claims 12, 14 and 15 have been considered but are moot in view of the new ground(s) of rejection.

However, Examiner would like to address the argument wherein the comparison between the roughened surface and not roughened surface is shown (see Applicants' remarks, page 4). First of all comparative example shows the roughness of 50-100 micron, while the instant claim 12 calls for the range of 40-2000 micron. As such, the evidence presented by Applicants is not commensurate in scope with the instant claims. Furthermore it is well settled in Ex parte Raske, 28 USPQ 2d. 1304, 1306 (BPAI 1993) that Applicants' example and comparative run must constitute a side-by-side test holding all the variable constant except for the novel feature of the claimed invention. As such, Applicants have not established that the difference between the claimed invention and the prior art give rise to the unexpected result.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mikhail Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M. KORNAKOV

Mikhail Kornakov
Primary Examiner
Art Unit 1746

August 17, 2006